

Oil and Gas Extraction Program PPOP

What are our priorities?

The National Institute for Occupational Safety and Health (NIOSH) Oil and Gas Extraction Safety and Health Program works with partners in industry, trade associations, professional organizations, academia, and labor. The program focuses on these areas:

- Reducing worker fatalities, with an emphasis on motor vehicle crashes;
- Characterizing physical and chemical exposure hazards; and
- Developing and evaluating engineering controls to improve worker safety and health.

What do we do?

- Analyze surveillance data and conduct epidemiologic studies to identify leading causes of death and injury.
- Characterize exposures to hazardous agents, such as chemicals and minerals, to better understand the hazards and risks.
- Develop and evaluate engineering controls for the workplace.
- Investigate possible mechanisms of disease in oil and gas workers through laboratory research.
- Communicate and distribute information to raise awareness of hazards and promote NIOSH recommendations.

What have we accomplished?

- Provided NIOSH research to be used as content for West Virginia University's [DriveSAFE](#) program, which trained 427 oil and gas workers on essential elements of road safety.
- Published two guidance documents: "[COVID-19 Employer Information for Offshore Oil and Gas](#)" and "[What Offshore Oil and Gas Workers Need to Know about COVID-19.](#)"
- Contributed to the hazard alert on [Sudden Pressure Release](#), published by the National STEPS Network and the Association of Energy Service Companies. The alert raises awareness of pressure-related events and prevention measures employees and employers can take.
- Posted Fatalities in Oil and Gas (FOG) data to the [NIOSH FOG website](#), increasing what is known about oil and gas worker fatalities.
- Published a NIOSH Fatality Assessment and Control Evaluation ([FACE](#)) [Report Visual Extension](#) which describes the death of an oil and gas delivery driver in West Virginia. The visual extension complements the FACE report, highlighting the report's recommendations.
- Designed and tested a self-cleaning dust containment system to reduce worker exposure to respirable crystalline silica dust.
- Published an article in an oil and gas industry trade journal on "[Respirable Crystalline Silica and the Hierarchy of \(New\) Controls.](#)" This article describes advances in silica control technologies available to minimize and reduce worker exposure to respirable crystalline silica in oil and gas.
- Organized and facilitated [Silica in the Oilfield Summit 2.0](#) to present state-of-the-art knowledge on silica exposure controls during hydraulic fracturing. Over 350 registrants attended, including industrial hygiene and safety specialists, health and safety managers and coordinators, and other representatives from industry, government, and academia.

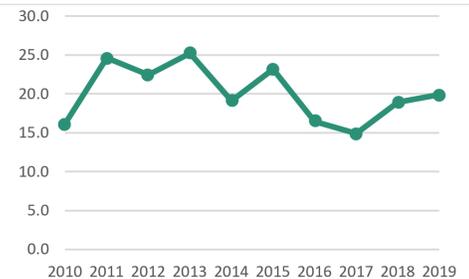
What's next?

- Publish an article describing research needs to address fatigue-related safety and health hazards.
- Develop a video and hazard alert on safe transfer and transport of oil and gas production fluids.
- Develop a report on the first five years of FOG data, to include findings and recommendations for improving worker safety and health.
- Publish an article with results from the NIOSH safety and health survey of oil and gas workers including information on driving behaviors, working hours, and company policies.
- Enhance the accessibility of FOG fatality data by incorporating it into the [NIOSH Worker Health Charts](#) (WHC) data visualization tool.

At-A-Glance

The Oil and Gas Extraction Program conducts research, partners with stakeholders, and develops and communicates practical solutions to improve safety and health in the oil and gas extraction industry. This snapshot shows recent accomplishments and upcoming work.

Oil and gas extraction work fatality rate (per 100,000 workers)



Source: BLS [2019] Quarterly Census of Employment and Wages (QCEW). Washington, DC: U.S. Department of Labor Statistics, <https://www.bls.gov/cew/>.

Dust released from the sand mover conveyance belt on a hydraulic fracturing site



Source: [Well Servicing Magazine](#)

Sudden Pressure Release Hazard Alert

Hazard Alert **Hazard Alert** **Hazard Alert** **Hazard Alert** **Hazard Alert**

Sudden Uncontrolled Pressure Release Precautions for Oil and Gas Industry

Between 2016 and 2018
15 FATALITIES **54** hospitalizations

Increased pressure released during the commissioning/decommissioning, maintenance, and repair of pressurized lines and equipment such as gases (well, natural, liquefied), steam, crude oil, petroleum products, slurry, chemicals, water, hydraulic, and air can be fatal.

When uncontrolled pressure is released, workers are also at risk of being struck by projectile materials such as valves, metal fragments, plugs, pipes, shock-waves, and hoses.

Conducting assessments to ensure controls are in place and proper safe work procedures or effective mechanical integrity programs are established and followed can keep workers safe.

PRESSURE can KILL!



Centers for Disease Control and Prevention
National Institute for Occupational Safety and Health

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